CONTENTS

PAGE

CAREY, FRANCIS G., KANWISHER, JOHN W. AND STEVENS, E. DON. Bluefin tuna warm their viscera during digestion 1

CECH, JOSEPH J., JR., LAURS, R. MICHAEL AND GRAHAM, JEFFREY B. Temperature-induced changes in blood gas equilibria in the albacore, *Thunnus alalunga*, a warm-bodied tuna 21

BELTZ, BARBARA, EISEN, JUDITH S., FLAMM, ROBERT, HARRIS-WARRICK, RONALD M., HOOPER, SCOTT L. AND MARDER, EVE. Serotonergic innervation and modulation of the stomatogastric ganglion of three decapod crustaceans (*Panulirus interruptus*, *Homarus americanus* and *Cancer irroratus*) 35

JACKSON, DONALD C. AND HEISLER, NORBERT. The contribution of the alkaline pericardial fluid of freshwater turtles to acid buffering during prolonged anoxia 55

MOTOKAWA, TATSUO. Viscoelasticity of Holothurian body wall 63

WEBB, P. W., KOSTECKI, P. T. AND STEVENS, E. DON. The effect of size and swimming speed on locomotor kinematics of rainbow trout. 77

OLSON, K. R. Distribution of flow and plasma skimming in isolated perfused gills of three teleosts 97

NIKINMAA, MIKKO AND WEBER, ROY E. Hypoxic acclimation in the lamprey, *Lampetra fluviatilis*: organismic and erythrocytic responses 109

KURAMOTO, TAKETERU AND EBARA, ARINOBU. Effects of perfusion pressure on the isolated heart of the lobster, *Panulirus japonicus* 121

FULL, ROBERT J. AND HERREID, CLYDE F., II. Fiddler crab exercise: the energetic cost of running sideways 141

EHRET, GÜNTER AND DREYER, ANGELIKA. Localization of tones and noise in the horizontal plane by unrestrained house mice (*Mus musculus*) 163

JOHN-ALDER, HENRY B. Reduced aerobic capacity and locomotory endurance in thyroid-deficient lizards 175

DENLINGER, D. L., SHUKLA, M. AND FAUSTINI, D. L. Juvenile hormone involvement in pupal diapause of the flesh fly *Sarcophaga crassipalpis*: regulation of infradian cycles of O_2 consumption 191

GESSER, H. AND MANGOR-JENSEN, A. Contractility and ^{45}Ca fluxes in heart muscle of flounder at a lowered extracellular NaCl concentration 201

VIDELER, J. J. AND HESS, F. Fast continuous swimming of two pelagic predators, saithe (*Pollachius virens*) and mackerel (*Scomber scombrus*): a kinematic analysis 209

HESS, F. AND VIDELER, J. J. Fast continuous swimming of saithe (*Pollachius virens*): a dynamic analysis of bending moments and muscle power 229

MUNTZ, W. R. A. AND RAJ, U. On the visual system of *Nautilus pompilius* 253

TETENS, VILHELM, WELLS, RUFUS M. G. AND DEVRIES, ARTHUR L. Antarctic fish blood: respiratory properties and the effects of thermal acclimation 265

PAGE

HARRIS, ROBERT A. AND KAUFMAN, WILLIAM R. Neural involvement in the control of salivary gland degeneration in the ixodid tick *Amblyomma hebraeum* 281

EDWARDS, DONALD H., JR. Crayfish extraretinal photoreception. I. Behavioural and motoneuronal responses to abdominal illumination 291

SCHOFIELD, P. K., SWALES, L. S. AND TREHERNE, J. E. Potentials associated with the blood-brain barrier of an insect: recordings from identified neuroglia . . . 307

SCHOFIELD, P. K. AND TREHERNE, J. E. Localization of the blood-brain barrier of an insect: electrical model and analysis 319

SCHOFIELD, P. K., SWALES, L. S. AND TREHERNE, J. E. Quantitative analysis of cellular and paracellular effects involved in disruption of the blood-brain barrier of an insect by hypertonic urea 333

MALLEFET, J. AND BAGUET, F. Oxygen consumption and luminescence of *Porichthys* photophores stimulated by potassium cyanide 341

KATZ, URI AND LARSEN, E. HVIID. Chloride transport in toad skin (*Bufo viridis*). The effect of salt adaptation 353

SHORT COMMUNICATIONS

KATZ, U. AND BEN-SASSON, Y. A possible role of the kidney and urinary bladder in urea conservation of *Bufo viridis* under high salt acclimation. 373

ALEXANDER, DAVID. Unusual phase relationships between the forewings and hindwings in flying dragonflies 379

FRANK, TAMARA M., WIDDER, EDITH A., LATZ, MICHAEL I. AND CASE, JAMES F. Dietary maintenance of bioluminescence in a deep-sea mysid 385